



AIR NOISE CONTOUR IMPACT ON HOUSING CAPACITY IN GREATER CHRISTCHURCH

Introduction

We have been engaged by Christchurch International Airport Limited (*CIAL*) to complete a housing capacity (*HC*) study on the Greater Christchurch area to determine the availability of land for residential development and the impact that the Updated 50dB Ldn Air Noise Contours (*UANC*) will have. We have been asked to use the “Outer Envelope” Updated Air Noise Contour as the *UANC* in this report, as that is the larger of the two options presented to the Environment Canterbury Peer Review Panel for consideration. We have also considered the impact of the new Medium Density Residential Standards (*MDRS*). Introduction of the *MDRS* will result in even greater housing capacity in relevant residential areas in Greater Christchurch, especially in Christchurch City.

Our housing capacity research is limited to greenfield land¹ generally on the periphery of existing residential development in Greater Christchurch, spanning from Rangiora (Waimakariri District) in the north to Rolleston (Selwyn District) in the south, and excludes brownfield land and infill development land located within existing developed suburbs.

The object of the research work is to quantify any impact that the proposed *UANC* will have on housing capacity in Greater Christchurch.

This study identifies any gain or loss in housing capacity resulting from the proposed 50dB Ldn *UANC* compared to the existing Operative Plan 50dB Ldn Air Noise Contours (*OPANC*).

Methodology

Survey Methodology

We were provided with a set of Geographic Information System (*GIS*) data prepared by Marshall Day Acoustics on behalf of *CIAL* which contained the full suite of air contour lines associated with Christchurch International Airport. This *GIS* data was merged with our Quickmap *GIS* software to enable accurate identification of relevant land areas.

As specifically instructed, we have limited our analysis to the impact that the proposed 50dB Ldn *UANC* will have on Greater Christchurch compared to the 50dB Ldn *OPANC*.

The research team at Colliers Valuation (*Colliers*) reviewed the mapping data in association with aerial photographs and physical inspection on the ground, and identified respective land areas available across Greater Christchurch.

Assumptions

We have made the following assumptions in our analysis and completion of this report.

¹ “Greenfield land” is a term used in this report to describe undeveloped land that is potentially suitable for residential development and includes existing residential zoned land, *FUDAs*, Greenfield Priority Areas, plan change areas and land zoned rural but considered to be suitable for rezoning to residential.

Rezoning Assumption

Where we have identified land that is reasonably suitable to be rezoned for residential development, we have assessed the HC taking into account its location. We have assumed that such land is adequately serviced to allow residential development.

HC Land Yield

For the purposes of our analysis, we have adopted a HC density yield of 15 household units per hectare (hh/ha) in Christchurch City and 12 hh/ha in Waimakariri District and Selwyn District, unless there is an existing development plan. This yield takes into account roads, utility areas, and reserves.

Potential Future Development Capacity - Timing

The land identified under the Future Development HC Capacity category has different characteristics in terms of development timeframe. Some land (eg, FUDA's) potentially will not be developed for some time and is not as "development-ready" as existing residential zoned land or land subject to plan changes.

Housing Capacity Land Categories

We have categorised the HC into three broad categories and, in the case of the potential category, there are some sub-categories.

1. *UANC HC*

In four locations the UANC impacts development potential when compared to the status quo under the OPANC. The locations where residential development potential is lost are Kaiapoi, Rolleston and West Melton. The only areas where there will be a gain in potential residential development potential are Harewood and Rolleston.

2. *Potential HC Land*

We have identified potential HC land currently not zoned residential as follows:

- **Plan Changes**

We have identified plan change applications as potential areas of future residential development. The only areas in Greater Christchurch where there are plan changes currently underway to rezone land from rural to urban zoning is Selwyn District where there are 13 private plan changes and Waimakariri District where there is one plan change. The plan changes are in various stages in the regulatory timeframe.

- **Future Development Areas**

Future Urban Development Areas (FUDA's) and Greenfield Priority Areas (GPA's) as defined in the Canterbury Regional Policy Statement are all identified as future development areas in this report. This category also includes land within the Projected Infrastructure Boundary in Waimakariri District.

- **Projected Infrastructure Boundary**

In Waimakariri District the FUDA's were identified as land within the Projected Infrastructure Boundary in Rangiora and Kaiapoi in the operative District Plan.

3. *Residential Zoned Land*

We have identified the HC development capacity of existing residential zoned land as identified in the relevant District Plans.

Geographic Areas

We have completed our analysis on the basis of suburbs, or groups of suburbs, in Christchurch and major townships in Waimakariri District and Selwyn District. The following is a summary:

Waimakariri District

- Rangiora
- Ohoka
- Woodend / Pegasus
- Kaiapoi

Christchurch City

- North West - Belfast
- North West – Harewood
- North West – Redwood
- North East – Highfield
- North East – Cranford
- South West – Yaldhurst / Broomfield
- South West – Halswell / Awatea / Wigram

Selwyn District

- Prebbleton
- Lincoln
- Rolleston
- West Melton

Residential Market Overview

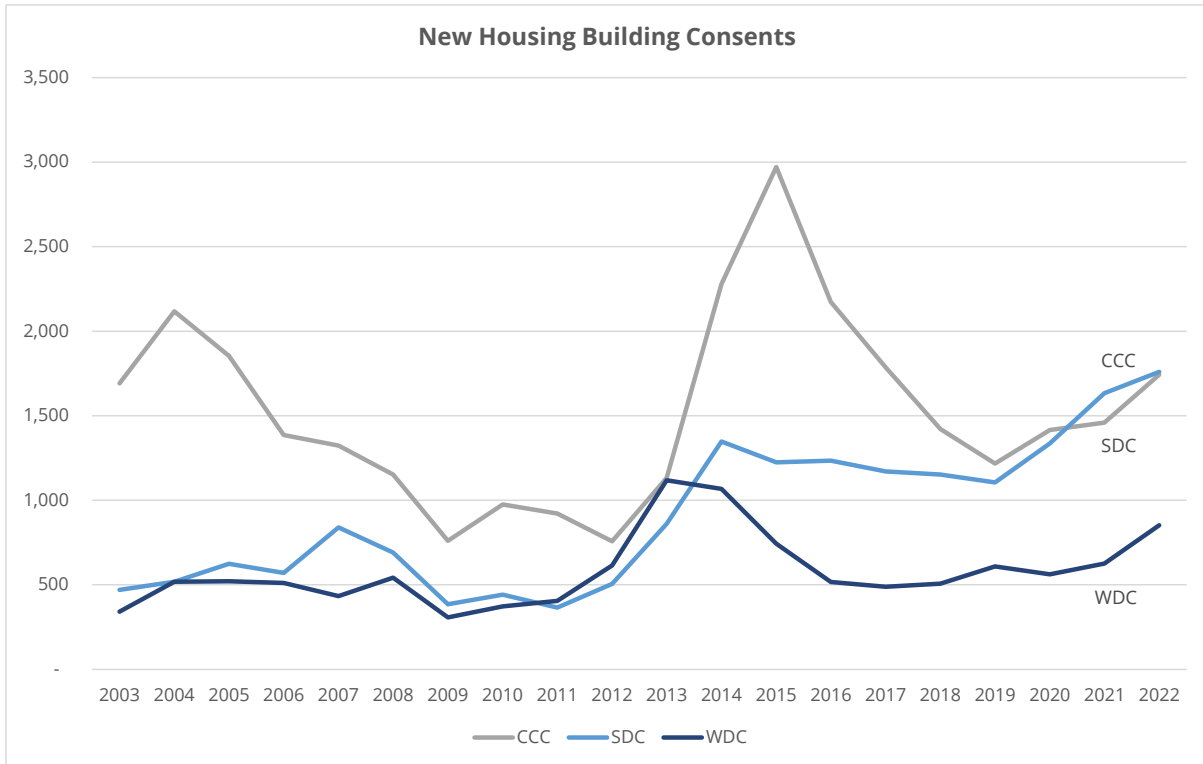
New Zealand's residential property market has experienced a significant boom, largely driven by historic low interest rates never seen before in New Zealand. After a sustained, strong cyclical period between 2012 and 2016, the market experienced a slowdown in growth in 2017 and moderate decreases in mid-late 2018. During early 2020 the market began to see growth again, until the emergence of the COVID-19 pandemic and subsequent lockdown in March 2020. During the early stages of the pandemic, the residential market was widely predicted to experience a sharp correction in line with forecasts for the wider economy. Actions taken by the government and Reserve Bank of New Zealand to support the national economy through the pandemic provided a huge stimulus to the residential market in 2020 resulting in a surge in values.

The reduction of interest rates to historic lows and the removal of the loan to value (LVR) restrictions provided support to the market as New Zealand entered lockdown in March 2020. These drivers, subsequently bolstered by New Zealand's stronger than expected economic performance, resulted in a rebound in consumer confidence as perceptions of job security increased.

It is apparent that the rampant value appreciation witnessed over the last 12-18 months has peaked and softened during the last three months. The reimposition of LVR restrictions and increases in the Official Cash Rate (OCR), with a clear indication of a further lifting of the OCR over the pending 12 month period together with affordability constraints and inflation, have moderated demand and resulted in a decline in growth; a situation which is positive for the market given that the rate of increase evident over the last 18 months was unsustainable.

We have completed analysis on building consents issued for new residential dwellings in the Greater Christchurch area over the last 20 years. The following is a summary table:

New Dwelling Building Consents – Greater Christchurch				
Year	CCC #	SDC #	WDC #	Total #
2003	1,691	470	341	2,502
2004	2,117	518	518	3,153
2005	1,855	625	521	3,001
2006	1,386	570	511	2,467
2007	1,324	839	434	2,597
2008	1,152	691	543	2,386
2009	761	385	308	1,454
2010	975	442	372	1,789
2011	922	365	405	1,692
2012	757	506	614	1,877
2013	1,132	861	1,119	3,112
2014	2,279	1,347	1,067	4,693
2015	2,971	1,224	744	4,939
2016	2,173	1,234	517	3,924
2017	1,787	1,171	489	3,447
2018	1,422	1,152	507	3,081
2019	1,217	1,105	609	2,931
2020	1,415	1,337	562	3,314
2021	1,459	1,633	626	3,718
2022	1,742	1,760	852	4,354
Total	30,537	18,235	11,659	60,431



Source: New Zealand Statistics – New Dwellings consented by 2022 statistical area 2 (Monthly)

In all three local authority areas, the volume of new dwelling consents climbed in the 2009 – 2010 period, following the global financial crisis in 2008.

Following the Canterbury earthquake sequence in 2010 - 2011, new dwelling consents surged in all three localities in the 2012 – 2016 period which resulted from demand from relocated red zone owners. Following the earthquake related rebuild, the market returned to business as usual in Christchurch City and the Waimakariri District, however there was a significant surge in consents in Selwyn District which coincided with the rapid expansion in Rolleston. Since 2019, the volume of new dwelling consents has increased in all three localities on the back of the boom in the residential market.

In the year ending March 2022, the total volume of new dwelling consents in Greater Christchurch was 4,354, at or near the peaks in 2014 – 2015.

The significant surge in demand for residential housing and residential sections during the last 18 months has placed stress on the supply of both vacant and improved product resulting in significant price escalation. This market cycle is well publicised and results from a mix of low interest rates and constrained supply.

In some locations there are few or no vacant residential sections available which resulted in significant price escalation. For example, in Selwyn District, price escalation in Prebbleton, Lincoln and Rolleston ranged between 100% - 145% over a 12 month period. In Rolleston, there were sections of at or around 600 sqm sold in 2020 for \$180,000 and a similar sized section sold in August 2021 for \$435,000, an increase of 142%. This is an extreme example, however it illustrates the constraint in supply of residential sections in Greater Christchurch.

Housing Capacity Assessment

The following is a summary of comments in relation to each geographic area:

Waimakariri District

Rangiora

In Rangiora, there is 29.26 ha or HC of 293 household units (HHU's) relating to land which is zoned for residential development (not including FUDA's). This land is located in the north, east and south west parts of the township. Significant areas are identified as FUDA's within the 'Projected Infrastructure Boundary', which is land identified as suitable for future urban development located in the Greenfield Priority Areas. Large blocks are located on the north eastern, south eastern and south western periphery of the township. In total there is 331.48 ha of land within FUDAs, which equates to a HC of 3,977 HHU's. In total, Rangiora has a total potential HC of 4,270 HHU's.

Ohoka

In Ohoka a plan change request was lodged in March 2022 by Rolleston Industrial Developments Limited to rezone 155.93 ha from rural to residential which will produce approximately 1,871 HHU's.

Woodend / Pegasus

In the Woodend and Pegasus location, there is 41.61 ha of land zoned for residential development which equates to a HC of 509 HHU's. In addition, there is a total GPA area which falls within the Projected Infrastructure Boundary comprising 46.56 ha or a HC of 559 HHU's. This land is located at the northern and southern ends of the township. The total HC in Woodend/Pegasus is 1,068 HHU's.

Kaiapoi

Kaiapoi is impacted by the OPANC and UANC. The UANC extends the air noise contour envelope further to the north east and encroaches over land which is identified in the Proposed Infrastructure Boundary. Kaiapoi has limited opportunity for further expansion due to the significant areas of land which is Red Zoned in and around the Kaiapoi River part of the township.

In Kaiapoi there is 40.58 ha zoned for residential development which equates to 568 HHU's. This land is located on the eastern edge of the developed township and also to the west adjacent to Silverstream. There is 59.30 ha identified within the Projected Infrastructure Boundary (FUDA), however 36.30 ha of this land falls within the UANC and therefore reduces the total FUDA area to 23.00 ha or 276 HHU's. The imposition of the UANC in Kaiapoi reduces HC by 436 HHU's. The net total area of potential and current residential zoned land is 63.58 ha or 844 HHU's.

Following the Canterbury earthquakes parts of Kaiapoi under the noise contours were specifically exempt from restrictions. This land was provided to ensure more residential areas could be developed and to offset red zoned land in Kaiapoi.

Rezoning of additional areas of residential zoned land was fast tracked in Silverstream Estates (1,180 HHU's), Sovereign Palms (280 HHU's) and Ruby Views (now Beach Grove) (750 HHU's) to offset the reduction in HC resulting from extensive Red Zoning in Kaiapoi.

Christchurch

North West – Belfast

In Belfast, we have identified a total area of 112.93 ha or 1,721 HHU's currently zoned for residential development. This includes land in Belfast Village, and a block named Blue Skies adjacent to Belfast Village.

North West – Harewood

The UANC in Harewood has moved further to the north west, opening up the opportunity for significant areas of land currently zoned Rural Urban Fringe as suitable to be rezoned for residential development.

We have identified a total area of 74.66 ha of land zoned for residential development located just outside the OPANC which equates to 1,120 HHU's. The movement to the north west of UANC has unlocked the potential for 110.69 ha or 1,659 HHU's to be rezoned for residential development. This land is located on the city side of Johns Road (SH.1).

There is an area of land located on the northern side of SH.1 comprising 22.25 ha and equivalent to 333 HHU's adjacent to Clearwater Avenue and Willowcreek Lane. We have chosen to exclude this land on the basis that it is isolated by SH.1, however this land could potentially be added to the HC.

Combining the existing greenfield zoned residential land with the land identified as potentially suitable for rezoning following the movement of the UANC, the total HC is 2,779 HHU's.

North West – Redwood

We have identified 71.79 ha in Redwood which is zoned for residential development, which produces 1,077 HHU's.

North East – Highfield

Highfield includes the area in and around Prestons Road and further to the east where we have identified 61.88 ha zoned for residential development, which equates to a HC of 928 HHU's.

North East – Cranford

We have identified two blocks of land either side of Cranford Street where there is 33.71 ha zoned for residential development, which equates to an HC of 505 HHU's.

South West – Yaldhurst / Broomfield

There are three blocks of land in Yaldhurst/Broomfield which also includes land at Riccarton Park adjacent to Riccarton Racecourse. In total there is 43.40 ha zoned for residential development, which equates to 651 HHU's.

South West – Halswell / Awatea

There is significant vacant land zoned for residential development in the Halswell / Awatea and Wigram areas of the city. This area of Christchurch has the most potential for further development in the short to medium term under the current zoning. We have identified 314.87 ha, which equates to 4,724 HHU's.

Selwyn District

Prebbleton

In Prebbleton there is just 4.84 ha of land zoned for residential development which converts into 59 HHU's.

Prebbleton is currently the subject of three plan changes summarised as follows:

Plan Change Status – Prebbleton				
PC #	Applicant	Area Ha	Lots #	Status
PC 68	Urban Holdings Limited etc	67	820	Hearing completed – Pending
PC 79	Birchs Village Limited	37	400	Pending
PC 72	Trices Road Rezoning Group	28	290	Approved

On the assumption that all of the above plan changes are approved, comprising 132.78 ha, there will be an additional HC of 1,510 HHU's.

Therefore, the total HC in Prebbleton including the plan change land is 1,569 HHU's.

Lincoln

Currently, there are virtually no titled vacant residential sections for sale. There are a number of blocks of land on the south eastern and north eastern edges of the township which are zoned for residential development comprising 75.48 ha, which equates to 842 HHU's. There is currently one major plan change on the southern edge of the township. Plan Change 69, where the applicant is Rolleston Industrial Developments Limited, involves 194.41 ha and can be developed with 1,710 HHU's. The hearing has been completed and the commissioner has recommended to the Selwyn District Council that the land be rezoned in accordance with the plan change. Council approved the plan change on 8 June 2022. The addition of the plan change land to the existing land zoned residential produces a total area of 269.89 ha or 2,842 HHU's.

Rolleston

Rolleston is the largest township in Selwyn District. Currently, there are virtually no titled residential sections for sale. We have identified a total area of 83.48 ha of land zoned for residential development which is equivalent to 1,002 HHU's.

In addition to the land zoned residential there is 194.95 ha in the FUDA, which equates to 2,339 HHU's. The proposed UANC in the Rolleston area alters the 50dB Ldn line moving it to the north east and shifting slightly to the south east. The impact of this change releases FUDA land which is the subject of Plan Change 71. This area consists of 15.44 ha or 185 HHU's. The UNAC change to the south reduces the FUDA area by 2.47 ha or 29 HHU's. The net number of HHU's following addition and removal of the land affected by the UANC is 2,310.

There are nine plan changes in various stages of process. The following is a summary:

Plan Change Status – Rolleston				
PC #	Applicant	Area Ha	Lots #	Status
PC 73	Rolleston West Residential Ltd	160	1,922	Declined and under appeal
PC 82	Brookside Road Residential Ltd	110	1,317	Application stage
PC 81	Rolleston Industrial Developments	28	341	Application stage
PC 70	Hughes Developments Limited	61	736	Application stage
PC 64	Hughes Developments Limited	35	421	Approved and developed
PC 76	Dunweavin 2020 Limited	13	156	Approved
PC 78	Urban Estates	63	774	Approved
PC 75	Your Section Limited	25	296	Approved
PC 71	Four Stars Development Limited etc	38	443	Decision pending

Inclusion of all of the plan change areas adds 535.33 ha of residential development capacity, which equates to 6,424 HHU's.

The proposed UANC encroaches into the PC 71 area, reducing the development land by 1.53 ha or 18 HHU's.

Combining the existing greenfield zoned residential land, the FUDA land area and the land subject to plan change, totals a net area of 826.73 ha, which is equivalent to 9,921 HHU's.

West Melton

There is no land in West Melton which is zoned and available for residential development.

There are three plan changes in West Melton which are as follows:

Plan Change Status – West Melton				
PC #	Applicant	Area Ha	Lots #	Status
PC 67	GW Wilfield Limited	33	131	Approved
PC 74	Hughes Developments Limited	21	130	Submission stage
PC 77	Marama Te Wai Limited	50	525	Application stage

Plan Change 67 has been approved which produces 131 HHU's. The proposed UANC encroaches further over West Melton and essentially envelopes all of the land in PC 74, comprising 20.69 ha. We have excluded this land from our HC assessment. Therefore, in total, the net area of land subject to plan changes unaffected by the UANC comprises 83.77 ha or 656 HHU's.

Summary

Attached at **Appendix A** is a map of Greater Christchurch identifying the various categories of land in this HC study.

The following table summarises our assessment of HC in Greater Christchurch:

Colliers Housing Capacity Summary				
Location	UANC #	Potential #	Zoned #	Total #
Waimakariri District				
Rangiora	-	3,977	293	4,270
Ohoka	-	1,871	-	1,871
Woodend / Pegasus	-	559	509	1,068
Kaiapoi	(436)	712	568	844
Christchurch City				
North West – Belfast	-	-	1,721	1,721
North West – Harewood	1,659	-	1,120	2,779
North West – Redwood	-	-	1,077	1,077
North East – Highfield / Preston	-	-	928	928
North East – Cranford	-	-	505	505
South West – Yaldhurst/Broomfield	-	-	651	651
South West – Halswell / Awatea / Wigram	-	-	4,724	4,724
Selwyn District				
Prebbleton	-	1,510	59	1,569
Lincoln	-	1,710	842	2,552
Rolleston	156	8,763	1,002	9,921
West Melton	(130)	786	-	656
Total	1,249	19,888	13,999	35,136

In total, there is the potential for 13,999 HHU's to be developed on land currently zoned Residential, and the potential for 19,888 HHU's to be developed on land that has the potential to be rezoned, is located in FUDA's or is subject to plan change.

The total impact of the proposed UANC on Greater Christchurch, taking into account potential gains from rezoning and losses, equates to an increase in housing capacity of 1,249 HHU's.

The following is a summary table of the impact:

UANC Impact	
Location	Dwg #
Harewood	1,659
Kaiapoi	(436)
Rolleston	156
West Melton	(130)
Net Total	1,249

In the case of Harewood, this land is in a desirable residential location where residential development has generally transacted in the mid to upper price bracket.

Medium Density Residential Standards

The Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 is designed to accelerate housing supply in areas of high demand. The Act enables greater levels of permitted residential development within low and medium density residential zones in New Zealand's largest centres.

For completeness, we have considered the potential impact of MDRS standards on HC in Christchurch City. This is based on The Property Group's (TPG) Assessment of Housing Enabled by the new Medium Density Residential Standards (MDRS) dated January 2022.

TPG was engaged by Christchurch City Council to undertake an analysis of the impact of the recent policy direction of urban growth under the National Policy Statement on Urban Development (NPS-UD) and in particular, the new Medium Density Residential Standards (MDRS) for Christchurch City.

TPG's assessment demonstrated that the new policy framework enables medium density development in the majority of the Christchurch City residential areas, creating an estimated plan enabled capacity of 222,478 dwellings. This total included 158,772 dwellings through comprehensive redevelopment and 63,706 through infill development.

TPG completed further analysis to assess the projected feasible capacity and concluded there was the potential for 58,188 feasible dwellings made up of 37,441 dwellings through comprehensive redevelopment and 20,747 through infill development.

The TPG analysis did not include undeveloped residential zoned land on the periphery of the city.

Accordingly, if the TPG assessed projected feasible capacity of 58,188 dwellings for Christchurch City is added to our total of 35,136 dwellings then the total HC in Greater Christchurch incorporating the MDRS is 93,324 dwellings.

We have previously analysed the impact that the UANC Line has on the TPG feasible dwelling total of 58,188. We concluded that the new UANC would reduce the feasibility capacity by 4,064 dwellings. Therefore, the net dwelling housing capacity reduces to 89,260 dwellings.

The TPG analysis did not include the residential zones in Waimakariri District and Selwyn District. If the TPG analysis was extended to the Waimakariri and Selwyn relevant residential zones, the net dwelling HC would be even higher.

We trust this report is suitable for requirements, however if you require any further information or discussion, please do not hesitate to contact the undersigned.

For and on behalf of:
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